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Matsuno

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[54] **APPARATUS TO SPREAD A SAMPLE OF SEAT TOP MATERIAL**

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[30] **Foreign Application Priority Data**

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[51] **Int. Cl.**[4] **G09F 5/00**

[52] **U.S. Cl.** **434/365**; 434/72

[58] **Field of Search** 434/365, 367, 373, 433, 434/72, 75

[56] **References Cited**

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[57] **ABSTRACT**

A display device for upholstery material and the like including a central section and an arched surface of an upwardly inclined inner surface and downwardly inclined outer surface joined by a curved section on each side of the central section. A channel is formed at the intersection of the arched surface and the central section and channels are formed across the length and width of the central section. The material is draped over the central section and the arched surface and depressed into one or more of the channels to hold the material and to correspond to the various parts of an article on which the material is to be used.

8 Claims, 2 Drawing Sheets

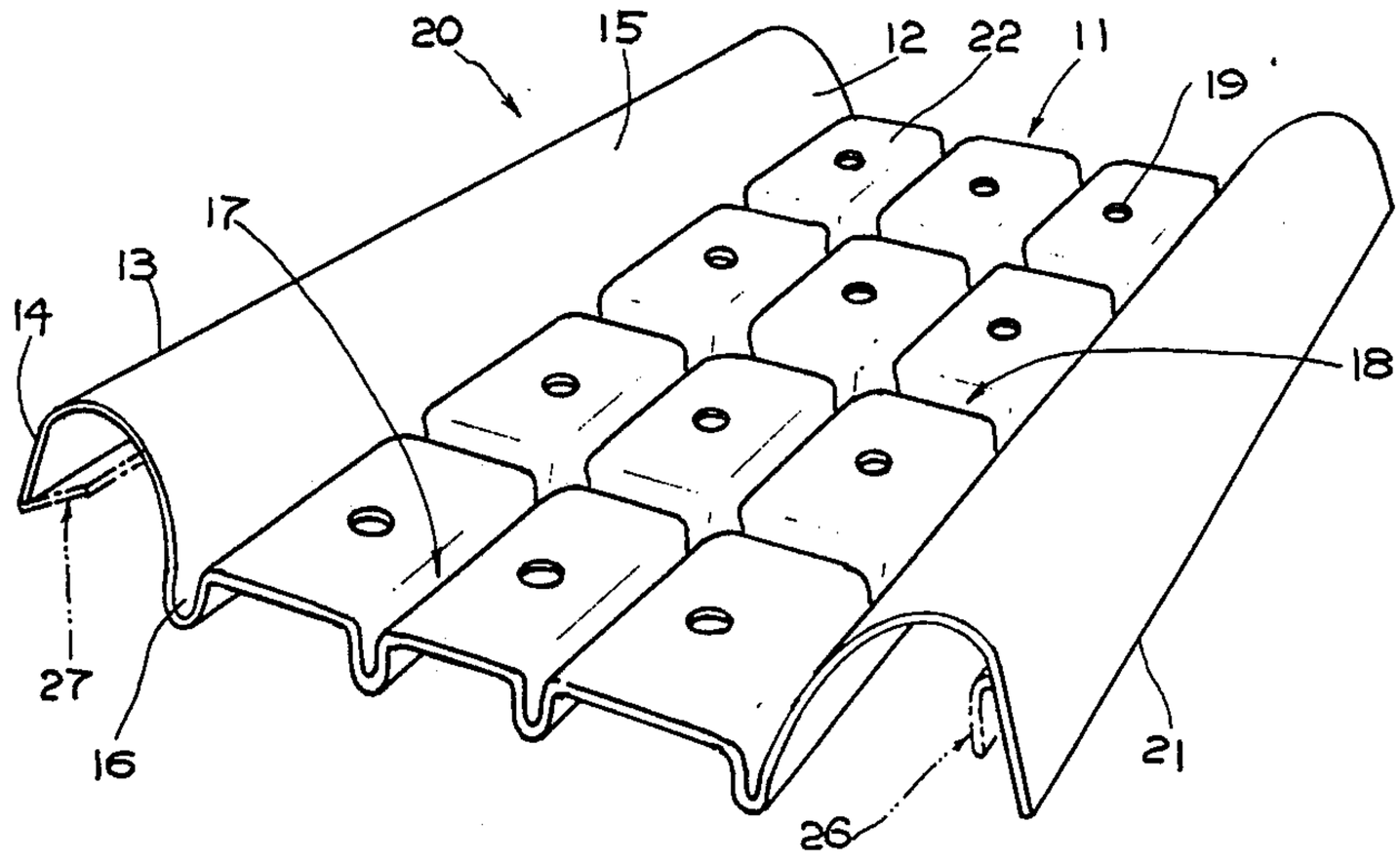


Fig 1

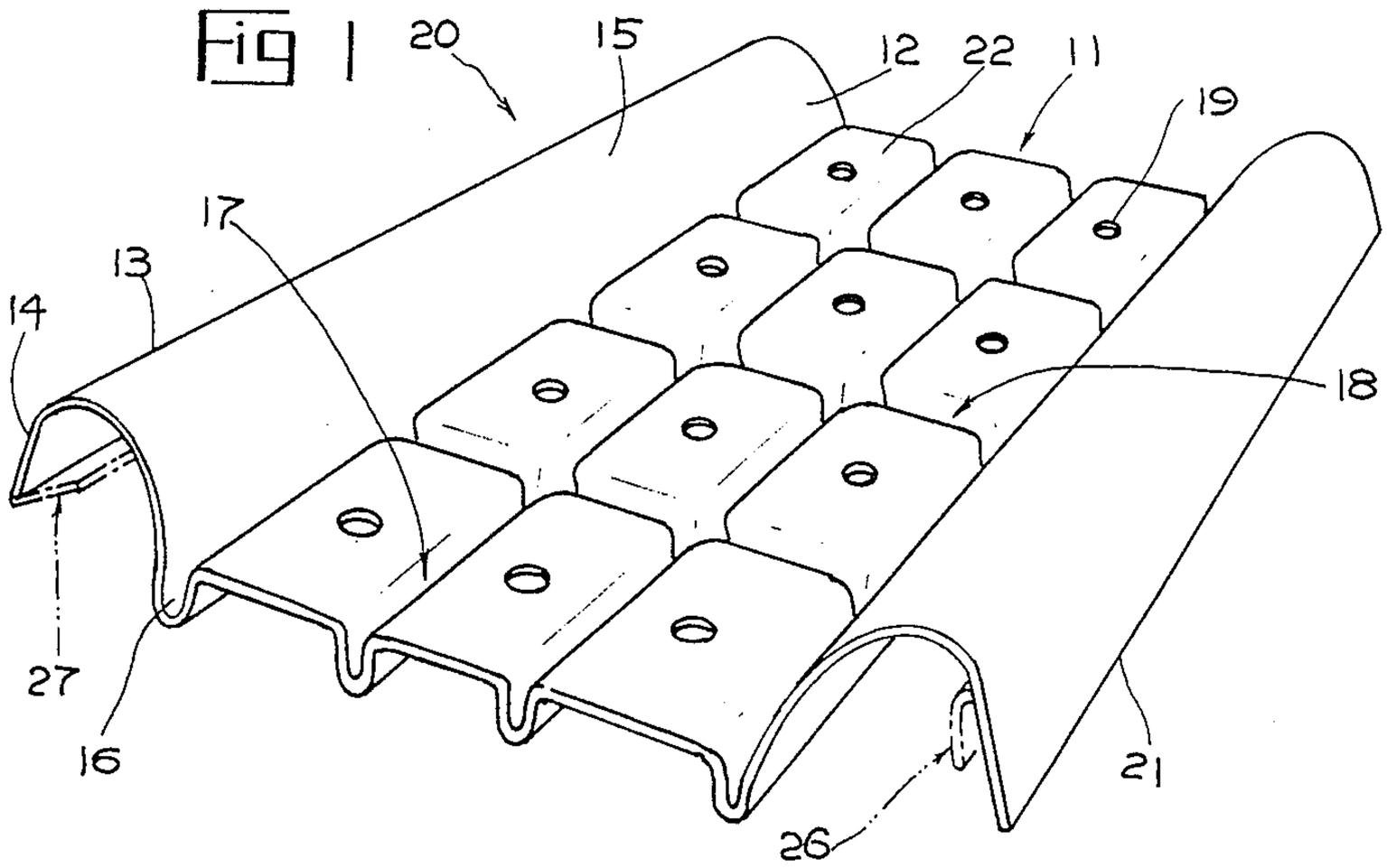


Fig 2

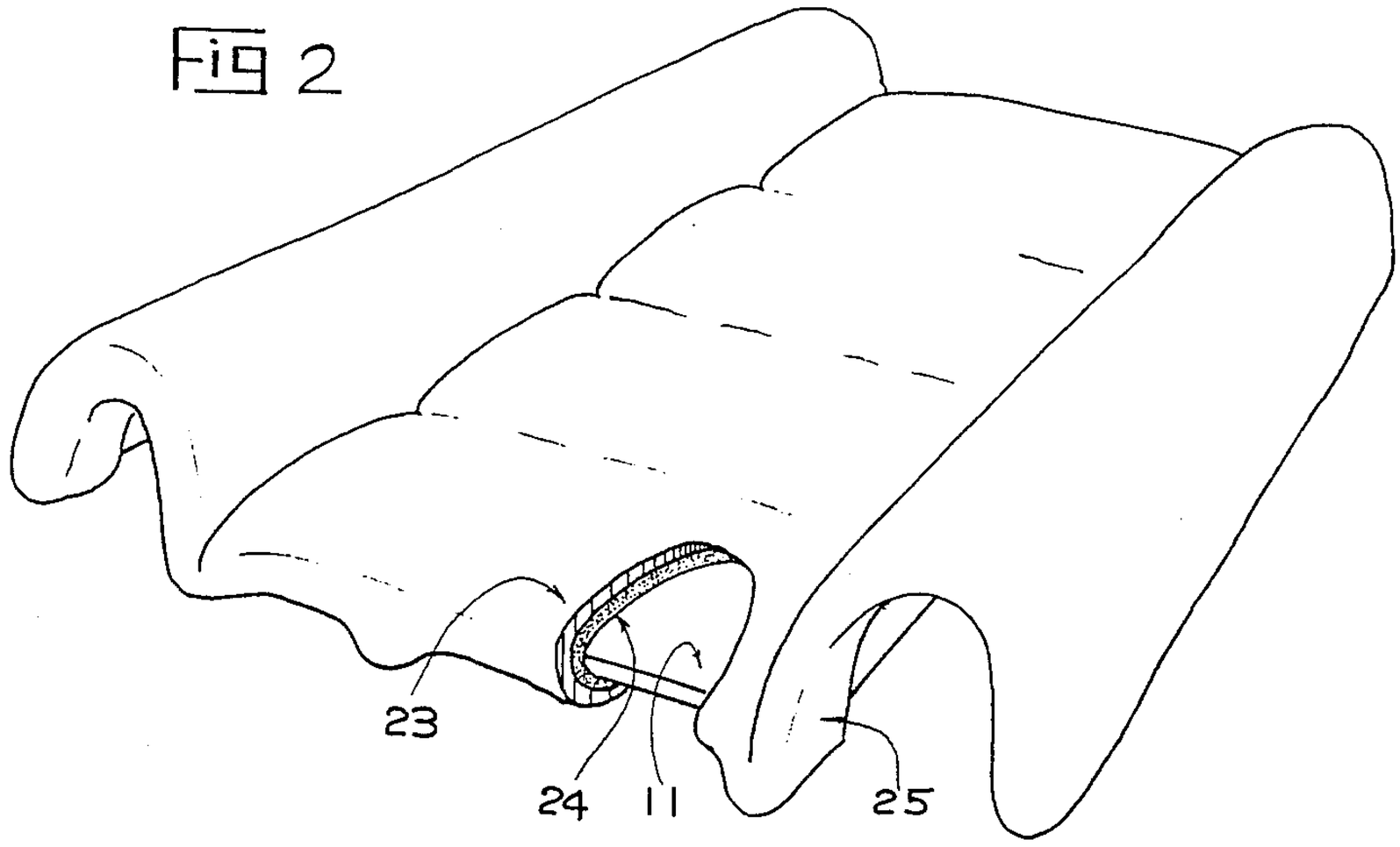


Fig 3

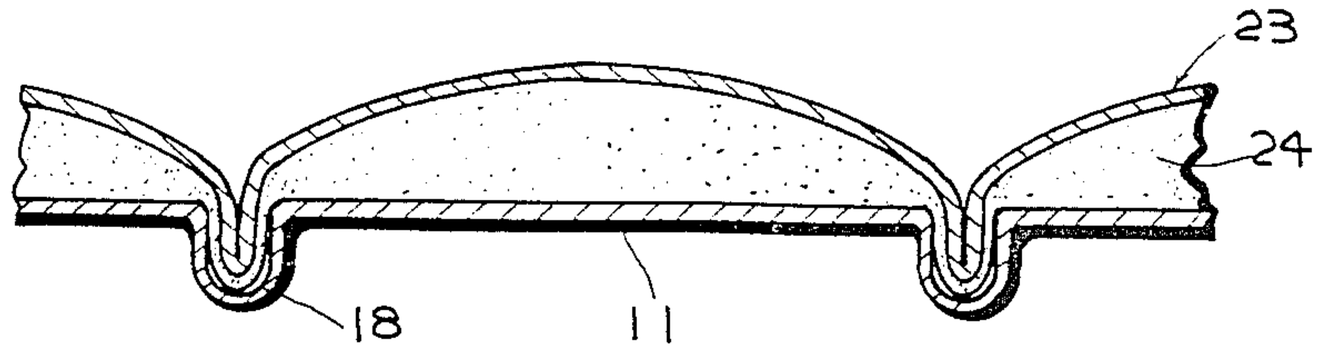


Fig 4

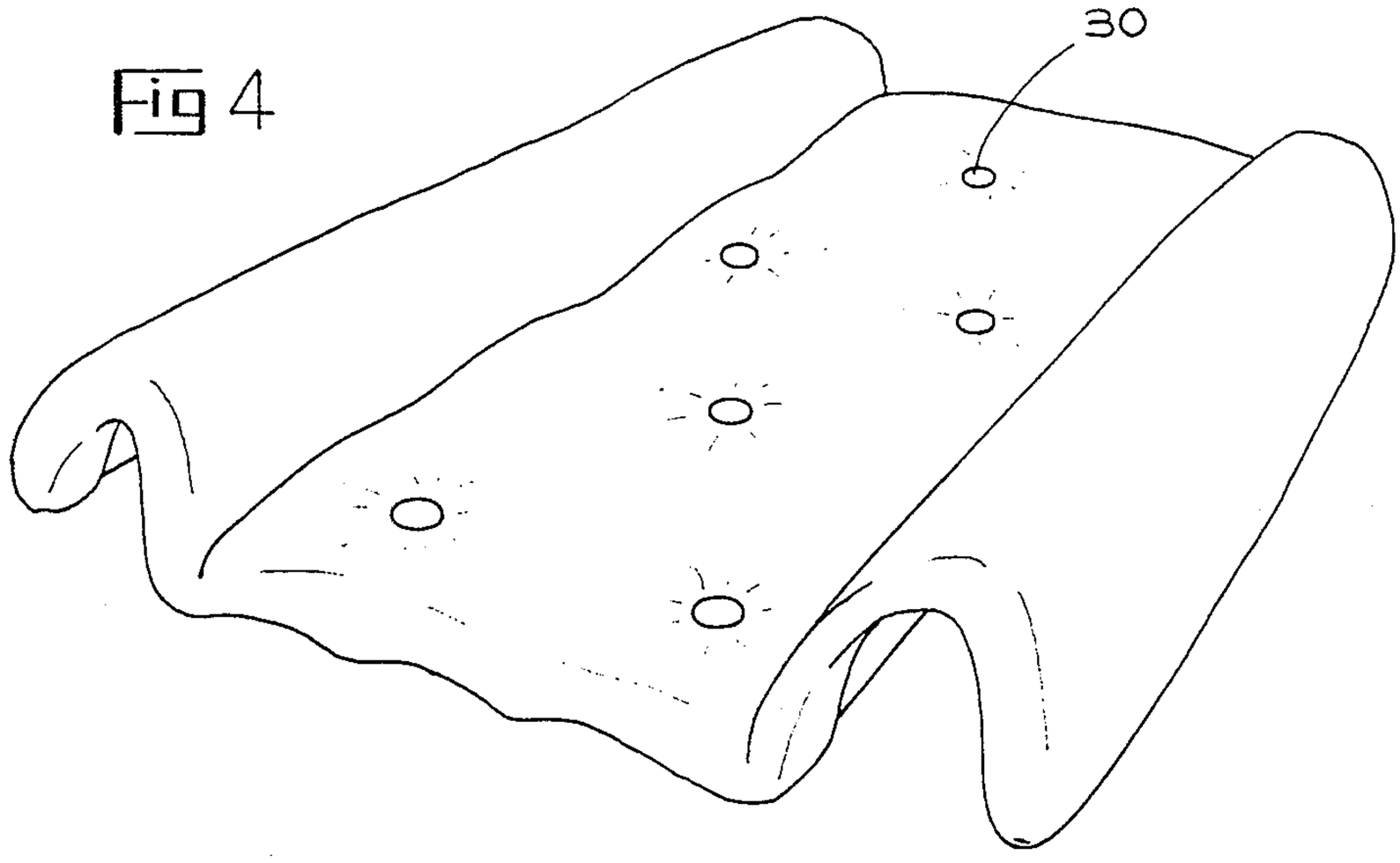


Fig 5

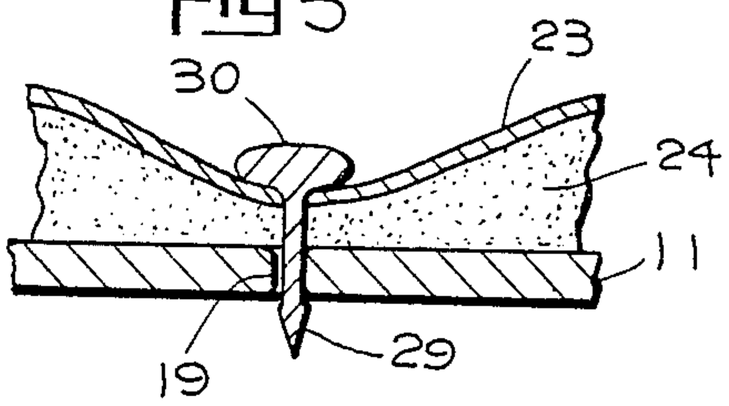


Fig 6

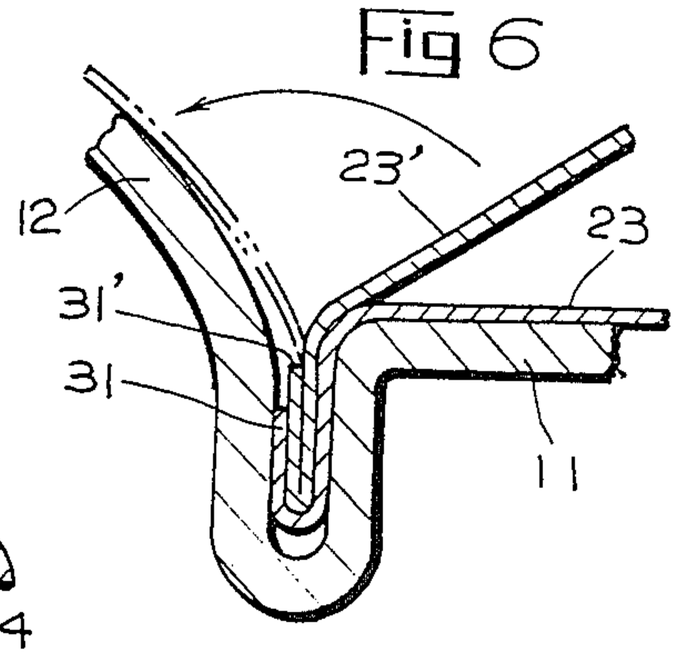


Fig 7

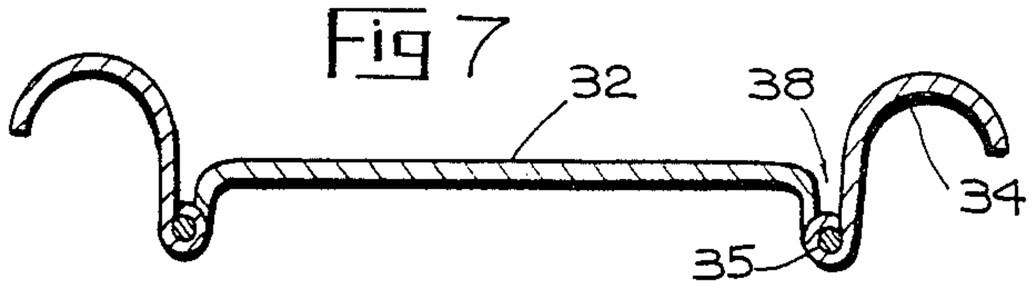


Fig 8

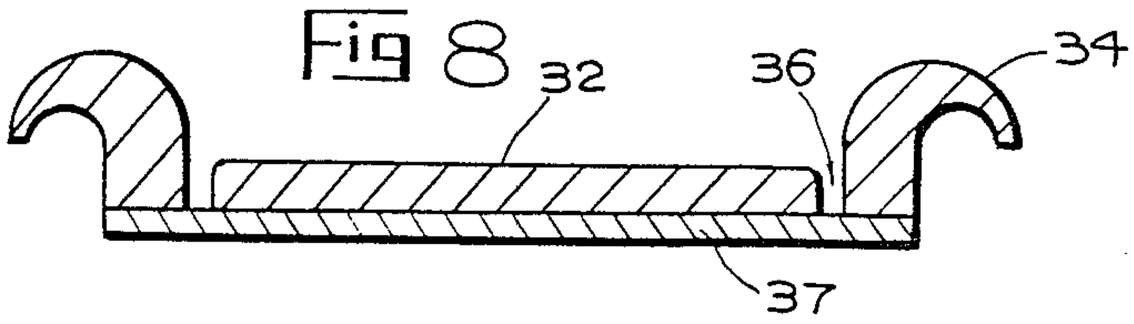
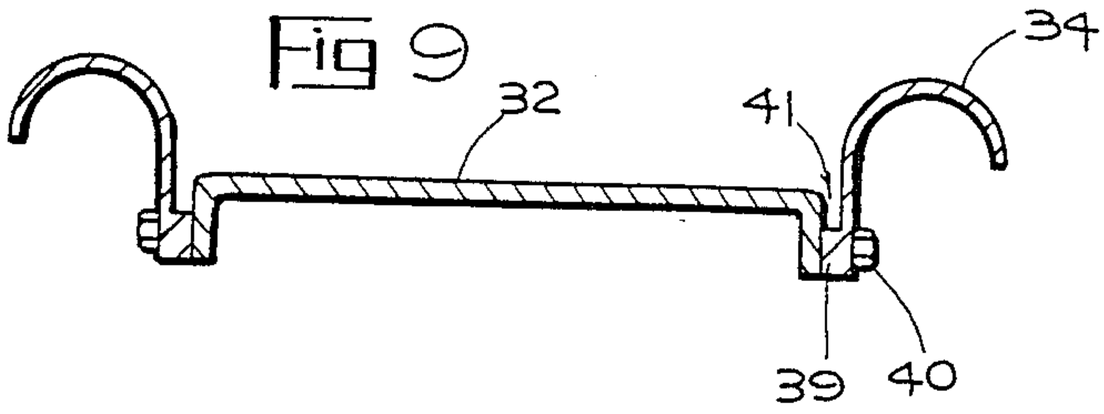


Fig 9



APPARATUS TO SPREAD A SAMPLE OF SEAT TOP MATERIAL

BACKGROUND OF THE INVENTION

This invention relates to an apparatus which is used to estimate the aesthetic appearance and the sense of touch of seat top material such as, pile fabrics, embossed fabrics, woven or knitted fabrics, artificial leather, synthetic leather and the like, by spreading and attaching a sample of these material to the chair body to be upholstered.

A seat top material is estimated and selected by the purchaser by imagining the appearance of chair upholstered with it and considering whether it is suitable for the upholstery. However, in the case of such seat top material as pile fabric, embossed fabric and artificial leather, where the nap or fluff tends to incline toward the same direction and an irregular reflection occurs on the surface, their appearances changes in color tone either light or dark. On the other hand, the surface of the seat portion and backrest of the chair is not always flat, but generally curved as in the passenger car seat and the edge of the seat which is higher than the center portion. For these reasons, it is necessary to observe the appearance of the many samples of seat top material from various viewpoints and to consider from all sides and conditions the variation in color tone imagining the actually used state.

As mentioned above, according to the prior art, a fertile imagination is required to estimate and select the best seat top material. But, it is impossible to expect such an ability from every purchaser. Especially, it is very difficult to select from different colors the material used for a two tone color chair of which the center and the border of the seat portion and the backrest are of different colors.

Thus, a trial seat has to be produced by sewing each sample of seat top material onto the seat portion and the backrest. However, this is not only very troublesome but also uneconomical, because the trial seats with the sample of seat top material have to be discarded when not actually used. Moreover, it is troublesome to transport and display the trial chairs upholstered in a sample of seat top material.

SUMMARY OF THE INVENTION

To solve the problem in the prior art, the present invention provides an apparatus to spread a sample of seat top material. This apparatus comprises a flat plane. An arch formed by an upwardly inclined inner surface extends from each side of the flat plane and a downwardly inclined outer surface continuing from the top portion of the upwardly inclined inner surface. A channel formed by an upwardly inclined inner plane and a downwardly inclined outer plane is on each side of the flat plane. Along the edges of the flat plane from which the arches extend, there are side channels of width from 3 to 10 mm and depth more than twice width.

The sample of seat top material is detachably attached by embedding it with a spatula or like object into these channels, so that samples can very easily be changed when applied on the apparatus one after another. On the other hand, the flat plane is similar to the concave middle portions of a chair and the upwardly inclined inner surface and the downwardly inclined

outer surfaces forming the arches are similar to the curved border portions of a chair.

Therefore, when the whole surface of a sample of seat top material attached on the apparatus is observed, its appearance can be observed as if it was really applied onto the chair. As a result of this, fitting and cutting of the sample of seat top material to produce a trial chair can be eliminated, the loss of material is minimized if not eliminated and from many samples the best choice can be decided upon speedily.

Therefore, the objects of the invention are;

1. to provide an apparatus to display the sample of seat top material as it is actually used, covering the chair and giving it dimensions, making it possible to confirm its appearance.
2. to provide an arrangement to attach and detach easily the sample of seat top material on the chair so that the best choice can be made.
3. to reduce the cost of the sample of seat top material by selecting the best designs from many choices without cutting and sewing the sample and without producing a trial seat.
4. to make it easy and convenient to transport and display the samples of seat top material.

Further objects and advantages of the present invention will be apparent by following description of the preferred embodiment illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of apparatus to upholster samples of seat top material.

FIG. **2** is a perspective view of the apparatus of FIG. **1** upholstered to display samples of seat top material.

FIG. **3** is a sectional side view taken substantially at the sub-channel.

FIG. **4** is a perspective view of another embodiment of apparatus to display upholstered samples of seat top material.

FIG. **5** is a sectional side view taken substantially of the flat plane.

FIG. **6** is a sectional side view taken substantially of the side channel.

FIG. **7**, FIG. **8** and FIG. **9** are respectively sectional side views of other embodiments of assembled apparatus to upholster sample of seat top material.

DETAILED DESCRIPTION OF THE INVENTION

The apparatus **20** of this invention to display a sample of seat top material in an upholstered form, by which the above mentioned objectives can be achieved is constructed with the following portions as illustrated in FIG. **1** in a typical embodiment;

(1) a flat plane **11** of width and length respectively from 20 to 100 cm,

(2) upwardly inclined inner surfaces **12** and **12'** extending from both sides of flat plane **11** reflectively from about 3 to 20 cm narrower than flat plane **11**,

(3) downwardly inclined other surfaces **14** and **14'** wider than 3 cm, continuing from the top portions of upwardly inclined inner planes **12** and **12'**,

(4) ridges **15** and **15'**, between which the flat plane **11** contains a wide bottom, formed with upwardly inclined inner surfaces **12** and **12'** and downwardly inclined outer surfaces **14** and **14'** on both sides of flat plane **11**,

(5) side channels **16** and **16'** preferably of a width from about 3 to 10 mm and depth more than twice the width, formed along the border lines of flat plane **11** from where the upwardly inclined inner surfaces **12** and **12'** upwardly incline, extending lengthwise and **18** extending across the width,

(6) sub-channels **17** preferably of a width from about 3 to 10 mm and depth greater than the width. There is a recess or hole **19** suitably formed on each flat block **22** of the plane **11** as formed between the respective crossing sub-channels **17, 18** flat as desired.

The flat plane **11** with side channels **16** and **16'** on both sides is not always necessary to be exactly flat. The flat plane **11** can be formed to be either convex or concave from one side channel **16** across the middle to the opposite side channel **16'**.

If the flat plane **11** is formed to be convex, its middle portion preferably is to be from about 2 to 5 cm lower than the side channel **16** and **16'** and the sub-channels **17** and **18** or the recesses or holes **19** are to be formed with a size of about 5–10 cm.

The flat plane **11**, the inner surfaces **12** and **12'** and the outer surfaces **14** and **14'** can be cast or molded into one body of thin and somewhat elastic metal, wood or plastic plate, or assembled by fixing parts.

As mentioned above, according to this invention, since the flat plane **11** is similar to the concave middle portions of the seat and backrest of a chair and the upwardly inclined inner surfaces **12** and **12'** and the downwardly inclined outer surfaces **14** and **14'** are similar to curved border portions of seat and backrest of chair, when the whole surface of apparatus **20** is observed from one viewpoint, the angles from the viewpoint against each portion of the surface of apparatus **20** are varied running the gamut from flat to curved and at different angles. The appearance of the seat top material **23** applied on the apparatus **20** is highly varied and is observed as if it was actually applied on the chair. On the other hand, since the sample of seat top material **23** is detachably attached by embedding it into the channels **16, 17** and **18**, it is very easy to change the sample applied to the apparatus **20** one after another, so from many samples the best choice can be decided speedily. Two tone color combination can easily be examined and decided upon.

As a result of this, fitting and cutting of seat top material **23** which was the usual method can be eliminated. Thus, the loss of material is eliminated. Moreover, the apparatus **20** is small, light and easy to be carried about when used for display of seat top material **23**. For the clients to examine samples of seat top material **23** and seeing a finished product before purchasing, it is very convenient. On the other hand, since the apparatus **20** is used only to observe the appearance of the seat top material **23** and as it cannot be used by actually sitting or reclining on as a chair, even if the seat top material **23** is slightly attached on it, no trouble occurs from its attached condition.

As mentioned above, the apparatus is very useful and convenient as no sewing is needed. A realistic appearance can be observed, making it possible to make the best choice from many samples of seat top material **23**. Therefore, this invention is very practical, economical and convenient.

FIG. **1** is a perspective view of a typical apparatus **20** to upholster samples of seat top material. The length of the apparatus is 285 mm molded in one piece of plastic plate of thickness 3 mm.

Numeral **11** designates a flat plane, **12** designates an upwardly inclined inner surface and **14** a downwardly inclined outer surface.

Numeral **16** designates a side channel of between the outermost flat planes and the upwardly inclined width 5 mm and depth 15 mm which is generally inner planes **12, 12'** which is generally U-shaped in cross section.

The surface of each of upwardly inclined inner surface **12, 12'** is convex and its cross section is acurate.

The width between top portion **13** and side channel **16** in the typical apparatus is 100 mm.

The top portion **13** is bent as an arch from the upwardly inclined inner surface **12** to the downwardly inclined outer surface **14**.

The downwardly inclined outer surface **14** is flat and its edge is slightly angled in the width direction.

The width between top potion **13** and edge line **21** of the outer plane **11** is typically 60 mm.

The edge line **21** terminates at the same level as flat plane **11**.

The flat plane **11** has a typical width of 285 mm divided in width into three equal parts by sub-channels **17** which extend in a straight line. The side channels **17** typically have a width of 5 mm and depth 15 mm.

Similarly, the length of the flat plane **11** is divided into four equal parts by the sub-channels **18** which typically have a width of 5 mm and depth of 15 mm.

Consequently, the flat plane **11** is divided into twelve equal blocks or panels **22** by the sub-channels **17** and **18**.

The surfaces of these blocks are flat and formed at the same level and each surface has a hole of a typical diameter 2 mm.

FIG. **2** is a perspective view of the apparatus **20** to upholster a sample of seat top material in use.

The seat top material **23** is upholstered on the apparatus in the following manner. First, sponge pad material **24** is laid on the apparatus **20**. Next, the seat top material **23** is laid over the sponge pad material **24**. Then with a spatula or similar object with a flat edge the seat top material **23** together **23** together with the sponge pad material **24** is pushed into the sub-channels **18**. This is repeated for the side channels **16** and **16'**. Finally, the overlapping edges **25** of these materials **23** and are taped into the inside of the apparatus.

FIG. **3** is a cross section of a sub-channel **17** onto which the seat top material **23** and the sponge pad material **24** have been fixed. By forming a channel **26** on the inside of the outer surface **14** or backwardly collapsing a flange **27**, it is possible to embed the overlapping edges **25** into the channel **26** or to fasten them with clips on the flange **27**.

FIGS. **4** and **5** illustrate another embodiment of the apparatus **20** to upholster sample of seat top material provided by this invention. In this case, the seat top material **23** and the sponge pad material **24** are fixed to the flat plane **11** by using buttons **30** having a pin **29** to be fixed into the hole **19**.

FIG. **6** illustrates another use of the apparatus **20**. In this case, two different seat top materials **23** and **23'** with edges **31** and **31'** together and the fabric pattern sides facing each other are embedded into the side channel **16**, and the wrong side of one piece of material **23'** is turned to be fixed on the upwardly inclined inner surface **12**.

The above mentioned apparatus **20** is made of plastic in one body, but the same can be assembled in parts as follows. That is, in the embodiment illustrated in FIG. **7**, flat plate part **32** and arched parts **34** are connected

with hinges **35** and channels **38** are formed between them.

In the embodiment illustrated in FIG. **8**, flat plate part **32** and arched parts **34** are respectively detachably attached to base plate **37** to form channels **36** between them.

In the embodiment illustrated in FIG. **9**, screw bolts **40** fix the inner end of arched parts **34** from which a rib **39** projects to the flat plate parts **32** to form channels **41** between them and above ribs **39**.

The sample of seat top material **23** is detachably attached by embedding it with a spatula or the like into the channels **16, 17, 18, 36, 38** and **41**. Thus, material applied on the apparatus **20** can be very easily changed one after another and thus from many samples the best choice can be decided speedily.

As mentioned above, the apparatus is very useful, therefore, this invention is very practical, economical and convenient.

I claim:

1. Apparatus to display a sample of sheet material comprising

a central section having opposed sides;

an upwardly inclined inner surface extending from at least one side of said central section,

a downwardly inclined surface continuing outwardly from said inner surface,

a depressed first channel along the length of the intersection of said central section and said upwardly inclined inner surface,

and at least one depressed second channel extending across said central section to divide said central section into a plurality of panels,

the material to be displayed laid over said central section and inner and outer surfaces, and inserted into said first and second channels to be held therein.

2. Apparatus as in claim **1** where there is a curved arch between said inner and outer surfaces.

3. Apparatus as in claim **2** further comprising an upwardly inclined inner surface and downwardly inclined outer surface with a curved arch therebetween on each side of said central section.

4. Apparatus as in claim **3** wherein there are a plurality of said second channels.

5. Apparatus as in claim **4** wherein said central section is flat.

6. Apparatus as in claim **4** wherein said central section is convex.

7. Apparatus as in claim **1** further comprising at least one depressed third channel in said central section which is generally parallel to said first channel and generally transverse to said second channel.

8. Apparatus as in claim **1** further comprising hinge means to attach said inner surface to said central section.

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